PROCEEDINGS OF THE
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OF LONDON

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ORDINARY MEETING

WEDNESDAY, 5th JULY, 1961, at 5.30 p.m. (Tea 5 p.m.)

AGENDA

1. Confirmation of the Proceedings of the Ordinary Meeting held on 7th June, 1961.
2. Recommendations of candidates for Fellowship. First reading.
3. Recommendations of candidates for Fellowship. Second reading.
4. Announcement of election of new Fellows.
5. Additions to the Library [see p. 20].
6. Admission of Fellows.
7. Exhibits.
8. Communications.

1. Mr. R. G. Fennah

(*Commonwealth Institute of Entomology*)

Some distribution patterns in Fulgoroidea

[ABSTRACT]

Although the superfamily is of world-wide occurrence, there are interesting differences in the distribution of some of its members, at family and lower taxonomic levels. Some of these will be discussed. The major routes of extensive movement, irrespective of direction, appear to have involved south-east Asia, from Malaya to the Philippines. This area has faunal elements in common with the eastern and western Palaearctic region, Africa, the islands of the Western Indian Ocean, India, Australia and, with notable exceptions, the islands of the Pacific Ocean, and the evidence suggests that it has for long been a major site of active speciation, and not merely a cross-roads.

The New World has no endemic families of Fulgoroidea, and lacks four that occur in the Old World, including two (Meenoplidae and Tettigometridae) that are of wide occurrence. With these exceptions its fauna to a large extent parallels that of the Old World. A few elements, occurring in different families, suggest a limited amount of immigration from south-east Asia.

Independently of the foregoing patterns of dispersal, and on a numerically far smaller scale, emigration on a radial pattern appears to have taken place from a southern source, which, faunistically, cannot now be traced.

The general picture gives the impression that either the means of travel are at times abruptly curtailed, or that the influence of other factors in determining movement, or successful establishment, is profound.

2. The Alder Woodwasp and its Insect Enemies

Mr. G. H. Thompson (Department of Forestry, University of Oxford) will introduce a film made by himself and Mr. R. Skinner (of the same department) on the life history of the Alder Woodwasp and its insect enemies.

NOTICES

Symposium on Insect Polymorphism

21st–22nd September, 1961

At the advertised closing date of 15th May the number of applications for the above Symposium exceeded the accommodation in the Society's meeting room.

Arrangements are being made to hold the meetings in a larger hall elsewhere in South Kensington (particulars of which will be sent to those attending in good time), and further applications can be accepted.

The next Ordinary Meeting will be held on *Wednesday, 4th October*, 1961.

Proceedings of the Ordinary Meeting held on 7th June, 1961

Professor G. C. Varley, President, in the chair.

Present, 53 Fellows and 10 visitors.

The President extended a welcome to Dr. H. Allen, Research Associate of the Academy of Natural Sciences, Philadelphia, Dr. I. Hodek, of the Czechoslovak Academy of Sciences, Dr. E. P. Breakey, of Washington State University and Professor C. S. Carbonell of the University of Montevideo.

The minutes of the Ordinary Meeting held on 3rd May were confirmed and signed by the President.

The names of the following candidates for election were read for the first time : Dr. Derek William Fewkes ; Mr. Donald Alister Griffiths ; Mrs. Augusta Maheswari Ladduwahetty, B.Sc. ; Mr. Henry John Berman Lowe ; Dr. Margaret Cranston Parsons ; and Mr. Robin Jeremy Wootton.

For the second time (taken as read) ; Mrs. Margaret Taggart Armstrong, B.Sc. ; Dr. Hasan Giray, B.Sc., Ph.D. ; and Mr. Robert John Orme.

The Secretary read the names of the following newly elected Fellows of the Society : Mr. Terence George Amos, B.Sc., University of St. Andrews, Queen's College, Dundee, Angus ; Dr. Armando J. Farre Castel-Branco, Centro de Zoologia, Rua da Junqueira-14, Lisbon, Portugal ; Mr. John Thomas Clark, M.A., 36, Angel Road, Harrow, Middlesex ; Mr. Kunnath Gopinath, Coffee Research Station, Chikmagalur District, Mysore State, India ; Professor David N. Kobakhidze, Academy of Sciences of the Republic of Georgia, Dzerzhinsky Str. 8, Tbilisi, U.S.S.R. ; Mr. John Alan Morton, 7, Allerton Gardens, North Heaton, Newcastle-upon-Tyne, 6 ; Professor G. Madan Mohan Rao, Sir Theagaraya College, Madras 21, India ; Mr. Richard Henry Watmough, Imperial College Field Station, Silwood Park, Sunninghill, Berks.; and Mr. Euan Cameron Young, Imperial College Field Station, Silwood Park, Sunninghill, Berks.

Thanks were voted to donors of gifts to the Library since the last meeting.

Mr. J. T. Clark, Mr. M. A. Hafiz, the Hon. Gordon Macpherson and Mr. R. H. Watmough signed the Obligation Book and were admitted Fellows of the Society.

Mr. L. Davies gave a paper on the structure of primitive Simuliidae and the probable affinities of the family with Chironomidae, an abstract of which appeared on page 13.

The discussion which followed was opened by the President who asked what the adults of the two recently discovered genera of primitive Simuliidae (*Gymnopais* and *Twinnia*) fed on. Dr. Davies replied that the mouth parts of *Gymnopais* were imperfect and it could not suck blood. At least one species of *Twinnia*, however, has fully developed mouth parts and could suck blood, but this did not mean that it necessarily did so. The study of the biting habits was, therefore, complicated and misleading conclusions could be drawn. The President also asked if it was easy to study chromosome numbers in the salivary glands. Dr. Davies replied that the chromosomes were large and easy to see ; their banding pattern was being studied at Toronto and opened up the possibility of considerable evolutionary knowledge.

Mr. G. Surtees asked whether the lack of a head fan in these two genera was associated with specialised feeding habits in the larvae. Dr. Davies agreed that this was probable, though he had made no detailed study. Mr. Surtees wondered if it would be true to say that in these two genera the larval mouth parts are reduced. Dr. Davies said he did not think so as the structures that were present were very elaborate. There was possibly a closer relationship to the structure in Orthocladiine Chironomidae, the larvae being browsers and not filter feeders.

The Secretary said that the Chironomidae were one of the more specialised families of the Culicidomorph group and showed reduction of mouthparts and wing venation. He thought that so far as the adults were concerned, the Simuliidae seemed to show more resemblance to the Ceratopogonidae than to the Chironomidae. This resemblance was particularly marked in the structure of the mouthparts and in the presence of a forked medial vein. He suggested that the Chironomid thorax used by Dr. Davies for comparison with *Gymnopais* came from a too specialised genus for valid comparisons to be made ; the more primitive genera have a larger prothorax and a less bulbous mesonotum.

Mr. W. B. Broughton asked whether the similarity in mouthparts of the adults applied only to certain parts. Dr. Davies replied that they were wholly very similar and the Secretary described the mandibles which are characteristic for the Simuliidae and Ceratopogonidae.

Dr. R. W. Howe gave a paper on the developmental periods of stored products insects, an abstract of which appeared on pages 13 and 14.

In the discussion which followed, Mr. C. E. Dyte asked if weight differences in *Tribolium* were inherited. Dr. Howe thought probably not but it was difficult to be sure ; in his experiments, heavy individuals at first tended to produce heavy offspring, but continued in-breeding had led him to modify his views.

Mr. L. P. Lefkovitch said that Mr. J. O. Bull, working with the moth *Ephestia kühniella* Zeller at the Atomic Energy Research Establishment at Wantage, had found a similar pattern of adult weight in relation to developmental period as that described for *Tribolium castaneum* (Herbst.). There was a peak of heaviness at the beginning of emergence and another late in the emergence period. The President wondered whether this was associated with incipient diapause ; possibly there was some hesitation in growth which would explain the results. Dr. Howe replied that there seemed to be no simple answer ; generally speaking, but not always, growth was steady in *Tribolium.*

Dr. D. H. Burges (a visitor) said that in *Trogoderma granarium* Everts there was a facultative diapause in old larvae which was interrupted at intervals by feeding. Non-diapausing individuals which developed quickly were lighter than the diapausing individuals which emerged later.

Mr. G. A. Brett asked if any work had been done with a parthenogenetic insect. Dr. Howe replied that this had not really been tried, but weights of adults were very uniform in the gynogenetic form of *Ptinus clavipes* Panzer.

PAUL FREEMAN, *Honorary Secretary.*

ADDITIONS TO THE LIBRARY

Presented

British Flies. Vol. VI *Empididae,* by J. E. Collin. Part 1 Tachydrominae. 8vo. Cambridge University Press, 1961. [The Publishers.]

British Museum (Natural History). *The Culicine mosquitoes of the Indomalayan area.* Part V. Genus *Aëdes* Meigen, subgenera *Mucidus* Theobald, *Ochlerotatus* Lynch Arribalzaga and *Neomelaniconion* Newstead. By P. F. Mattingly. 4to. London, 1961. [The Trustees of the British Museum.]

Harris, W. V. *Termites. Their recognition and control.* [*Tropical Agriculture Series.*] 8vo. London: Longmans, 1961. [The Publishers.]

Hyde, G. E. *Teach yourself Entomology.* 8vo. English University Press, 1961. [The Author.]

Purchased

Amann, G. *Kerfe des Waldes.* 8vo. Melsungen, [1960].

Breuning, S. *Catalogue des Lamiaires du monde (Col. Céramb.).* Leif. 4. 8vo. Tutzing bei München, 1961.

General Catalogue of the Homoptera. 8vo. North Carolina State College. Species index. Fasc. IV. Fulgoroidea. Compiled by V. Wade, 1960. Fasc. VII: Cercopoidea, Part 1 Machaerotidae. By Z. P. Metcalf, 1960.

Herting, B. *Biologie der westpaläarktischen Raupenfliegen. Dipt., Tachinidae.* [*Monographien zur Angew. Ent.* No. 16.] 8vo. Hamburg und Berlin, 1960.

Horion, A. *Faunistik der mitteleuropäischen Käfer.* Band VII Clavicornia. Teil 1 (Sphaeritidae bis Phalacridae). 8vo. Uberlingen-Bodensee, 1960.

Jewett, S. G., Jr. *The Stoneflies (Plecoptera) of the Pacific Northwest.* 4to. Oregon State College, 1959.

Metcalf, Z. P. *A bibliography of the Cercopoidea (Homoptera: Auchenorhyncha).* 8vo. North Carolina State College, 1960.

Die Neue Brehm- Bucherei. 8vo. Wittenberg: Ziemsen Verlag.
  Hft. 207. Schutztrachten im Tierreich, von H. Bruns, 1958.
  Hft. 220. Schneeinsekten, von H. Strübing, 1958.
  Hft. 261. Erdflohe (Col. Chrys. Halticinae), von K. H. Mohr, 1960.

Stammer, H. J., *ed. Beitrage zur Systematik und Ökologie mitteleuropäischer Acarina.* Band 1. Tyroglyphidae und Tarsonemini, Teil 1. 8vo. Leipzig, 1957.

In addition separates have been presented by Miss D. J. Jackson; Professor J. L. Cloudsley-Thompson; Polish Academy of Sciences; Dr. N. E. Hickin; Commonwealth Institute of Entomology; Dr. J. S. Edwards; Dr. J. Smart; Mr. E. G. Philp; Department of Tsetse and Trypanosomiasis Control and Reclamation, Rhodesia; Mr. G. A. H. McClelland; Mr. E. T. M. Reid; Dr. Ch. Malogolowkin; United States Department of Agriculture; Dr. A. M. Jordan; Dr. N. Lodos; Anti-Locust Research Centre and the Pest Infestation Laboratory, Slough.

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